

Claims

1. A monitoring device for monitoring the function of a working machine, the monitoring device comprising at least one sensor that generates a sensed signal containing information on the noise caused by at least one movable element of the working machine, wherein a computer that receives the signal of the sensor and generates an output signal value based on the sensed signal delivered by the sensor and a comparative value.

2. A monitoring device as defined by claim 1 wherein the sensed signal of the sensor contains information on the noise caused by a driven element of the working machine where the working element is a material processing element

3. A monitoring device as defined by claim 1 wherein the sensed signal of the sensor contains information on the noise caused by a driven element of the working machine where the working element is a material conveying element.

4. A monitoring device as defined by claim 1 wherein the sensor comprises an acoustic sensor

5. A monitoring device as defined by claim 1 wherein the sensor comprises a motion sensor.

6. A monitoring device as defined by claim 1 wherein the sensor is arranged on a part of the working machine that is directly mechanically in contact with the working element, wherein noise of the working element is mechanically transmitted to the sensor.

7. A monitoring device as defined by claim 1 wherein the sensor is arranged on a part of the working machine, wherein noise of the working element is acoustically transmitted to the sensor.

8. A monitoring device as defined by claim 1 wherein the computer generates a defect message if a parameter of the sensed signal of the sensor, deviates from the comparative value by more than a threshold value.

9. A monitoring device as defined by claim 8 wherein one parameter of the sensed signal is a frequency, and the computer generates a defect message if the frequency of the sensed signal of the sensor, deviates from the comparative value by more than the threshold value.

10. A monitoring device as defined by claim 8 wherein one parameter of the sensed signal is an amplitude, and the computer generates a defect message if the amplitude of the sensed signal of the sensor, deviates from the comparative value by more than the threshold value.

11. A monitoring device as defined by claim 8 wherein the comparative value corresponds to a flawless working machine.

12. A monitoring device as defined by claim 8 wherein the comparative value corresponds to a defective working machine.

13. A monitoring device as defined by claim 1 wherein the computer assigns the sensed signal from the sensor to the movable element of the working machine.

14. A monitoring device as defined by claim 13 wherein the computer assigns the sensed signal to the movable element of the working machine based on the position of the sensor in the working machine.

15. A monitoring device as defined by claim 13 wherein the computer assigns the sensed signal to the movable element of the working machine based on a parameter of the sensed signal of the sensor.

16. A monitoring device as defined by claim 13 wherein the computer receives signals from a rotational speed sensor that is assigned to a rotating element of the working machine, and the computer assigns a rotational signal that is related to the rotational speed measured by the rotational speed sensor to the rotating element.

17. A monitoring device as defined by claim 13 wherein the computer is designed for outputting information identifying to which moveable element a defect is associated.

18. A monitoring device as defined by claim 1 wherein the comparative value of the sensed signal of the sensor is recorded and stored by the computer.

19. An agricultural working machine for performing an agricultural operation, the agricultural working machine comprising:

- a frame;
- wheels supporting the frame;
- a moveable element;

an operator's cab from which the harvesting machine is controlled;
monitoring device comprising at least one sensor that generates a sensed signal containing information on the noise caused by the movable element of the agricultural working machine, wherein a computer that receives the signal of the sensor and generates an output signal value based on the sensed signal delivered by the sensor and a comparative value.

20. An agricultural working machine as defined by claim 19 wherein the sensed signal of the sensor contains information on the noise caused by a driven element of the working machine where the working element is a material processing element.

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